

CLAIMS

1. A feed metering device (1, 2, 3, 4, 5) for distributing fodder and/or drink in metered portions to an animal, which feed metering device (1, 2, 3, 4, 5) is provided with a feed unit (10, 20, 30, 40, 50) for containing fodder and/or drink, an entrance opening (11, 21, 31, 41, 51) to the feed unit (10, 20, 30, 40, 50), and a feed supplying device (13, 23, 33, 43) for supplying an amount of fodder and/or drink to the feed unit (10, 20, 30, 40, 50), the feed metering device (1, 2, 3, 4, 5) being provided with a closing means (25, 30, 40, 46, 50, 55) that is movable across the entrance opening in order to deter an animal visiting the feed unit (10, 20, 30, 40, 50) from taking fodder and/or drink, characterized in that the closing means (25, 30, 40, 46, 50, 55) rotates about an axis (26, 36, 45, 57), the closing means being driven by a roll (19, 29, 39, 47, 56) that contacts the closing means, which roll (19, 29, 39, 47, 56) is driven by a motor (28, 38, 48).
2. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 1, characterized in that the feed metering device comprises an animal identification device (12), the roll (19, 29, 39, 47, 56) being controlled with the aid of data from the animal identification device (12).
3. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 1 or 2, characterized in that the roll (19, 29, 39, 47, 56) is disposed in the vicinity below the entrance opening (11, 21, 31, 41, 51).
4. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 1, 2 or 3, characterized in that a housing (A, B, C, D, E) is disposed in the vicinity below the entrance opening (11, 21, 31, 41, 51), in which housing (A, B, C, D, E) the roll (19, 29, 39, 47, 56) is mounted.
5. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 1, 2, 3 or 4, characterized in that the movable closing means is constituted by the feed unit (30, 40, 50), which is designed as a movable one.

6. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 5, characterized in that the feed unit (30) comprises a wall portion (35) for catching remaining feed.
7. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 5 or 6, characterized in that the feed unit (30, 40, 50) bears on the housing (A, B, C, D, E) via the roll (19, 29, 39, 47, 56).
8. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the motor is included in the housing (A, B, C, D, E).
9. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the animal identification device (12) is included in the housing (A, B, C, D, E).
10. 10. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the feed metering device comprises further deterring means, which further means include a loudspeaker (16) for producing an animal-frightening sound.
- 20 11. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the feed metering device comprises further deterring means, which further means include a lighting device (15) for emitting an animal-frightening light.
- 25 12. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the feed metering device comprises further deterring means, which further means include a voltage emitting device (27) for emitting an animal-frightening electric voltage.
- 30 13. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims 10 to 12 and with reference to claim 3, characterized in that the further deterring means for deterring an animal are at least partially integrated in the housing (A, B, C, D, E).
- 35 14. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the feed metering device is provided with means for weighing the fodder

and/or drink present in the feed unit (10, 20, 30, 40, 50), which means move the feed unit (10, 20, 30, 40, 50) in a pivoting respectively a rotating manner.

15. A feed metering device (1, 2, 3, 4, 5) as claimed in
5 claim 14, characterized in that the means for weighing the
fodder and/or drink present in the feed unit (10, 20, 30, 40,
50) are connected to the feed supplying device (13, 23, 33, 43)
for supplying an amount of fodder and/or drink to the feed unit
10 (10, 20, 30, 40, 50) with the aid of data both from the animal
identification device (12, 22, 32, 42, 52) and the weighing
means.

16. A feed metering device (1, 2, 3, 4, 5) as claimed in
claim 14 or 15, characterized in that the means for weighing the
fodder and/or drink present in the feed unit comprise:

15 a feed unit (10, 20, 30, 40, 50), which is pivotable
about a hinge pin (26, 36, 45, 57), the degree of pivotability
being determined by the weight of the fodder and/or drink
present in the feed unit (10, 20, 30, 40, 50),

20 a device (18, 201) for determining the degree of
pivotability of the feed unit (10, 20, 30, 40, 50) and for
deducing, from the degree as determined, the weight of the
fodder and/or drink present in the feed unit (10, 20, 30, 40,
50).

17. A feed metering device (1, 2, 3, 4, 5) as claimed in
25 claim 16, characterized in that the device (18, 201) for
determining the degree of pivotability of the feed unit (10, 20,
30, 40, 50) and for deducing, from the degree as determined, the
weight of the fodder and/or drink present in the feed unit (10,
20, 30, 40, 50), is integrated in the housing (A, B, C, D, E).

30 18. A feed metering device (1, 2, 3, 4, 5) as claimed in
claim 16 or 17, characterized in that the device for determining
the degree of pivotability of the feed unit and for deducing,
from the degree as determined, the weight of the fodder and/or
drink present in the feed unit, comprises a measuring roll (19,
35 29, 39, 47, 56) which is in contact with the feed unit.

19. A feed metering device (1, 2, 3, 4, 5) as claimed in
claim 16 or 17, characterized in that the device for determining

the degree of pivotability of the feed unit and for deducing, from the degree as determined, the weight of the fodder and/or drink present in the feed unit, is constituted by a load sensor (202), the feed unit bearing on the load sensor (202).

5 20. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 19, characterized in that the load sensor (202) is included in the housing (A, B, C, D, E).

10 21. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 18 or 20, characterized in that the hinge pin (204, 59) and the measuring roll (29, 56) respectively the load sensor (202) are located at a small distance from each other.

15 22. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims 14 to 21, characterized in that there is provided a safety supporting bracket (101, 205, 58) for the feed unit.

23. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 14, characterized in that the means for weighing the fodder and/or drink present in the feed unit comprise:

20 a movable feed unit (30),

a motor (38) for moving the feed unit (30),

25 a device (301) for measuring the magnitude of the torque during movement and for deducing, from the magnitude of the torque measured, the weight of the fodder and/or drink present in the feed unit (30).

30 24. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 23, characterized in that the motor (38) for moving the feed unit (30), and the device (301) for measuring the magnitude of the torque during movement and for deducing, from the magnitude of the torque measured, the weight of the fodder and/or drink present in the feed unit (30), are integrated in the housing (A, B, C, D, E).

35 25. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 23 or 24, characterized in that the motor (38) for moving the feed unit (30) drives a torque roll (39), which torque roll (39) is in contact with the feed unit (30).

26. A feed metering device (1, 2, 3, 4, 5) as claimed in claims 5 and 25 or claims 5 and 18, characterized in that the

roll for driving the feed unit and the torque roll respectively
the measuring roll, are constituted by one roll.